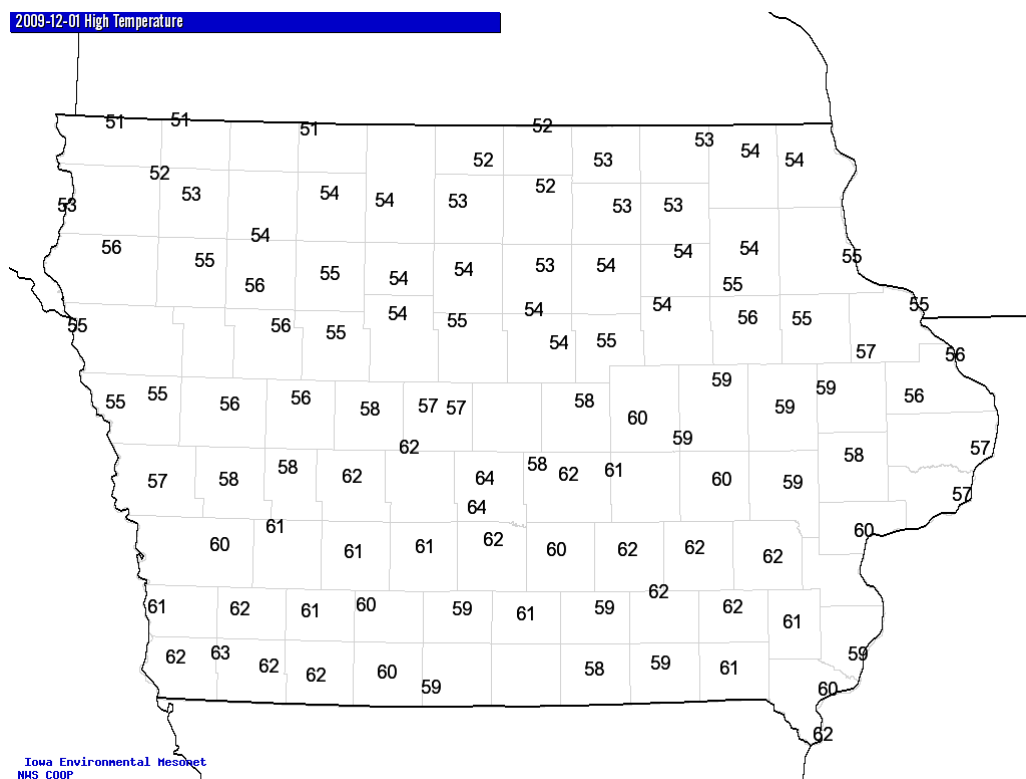


The Winter Storms and Inclement Weather of December 2009

A Central Iowa Perspective

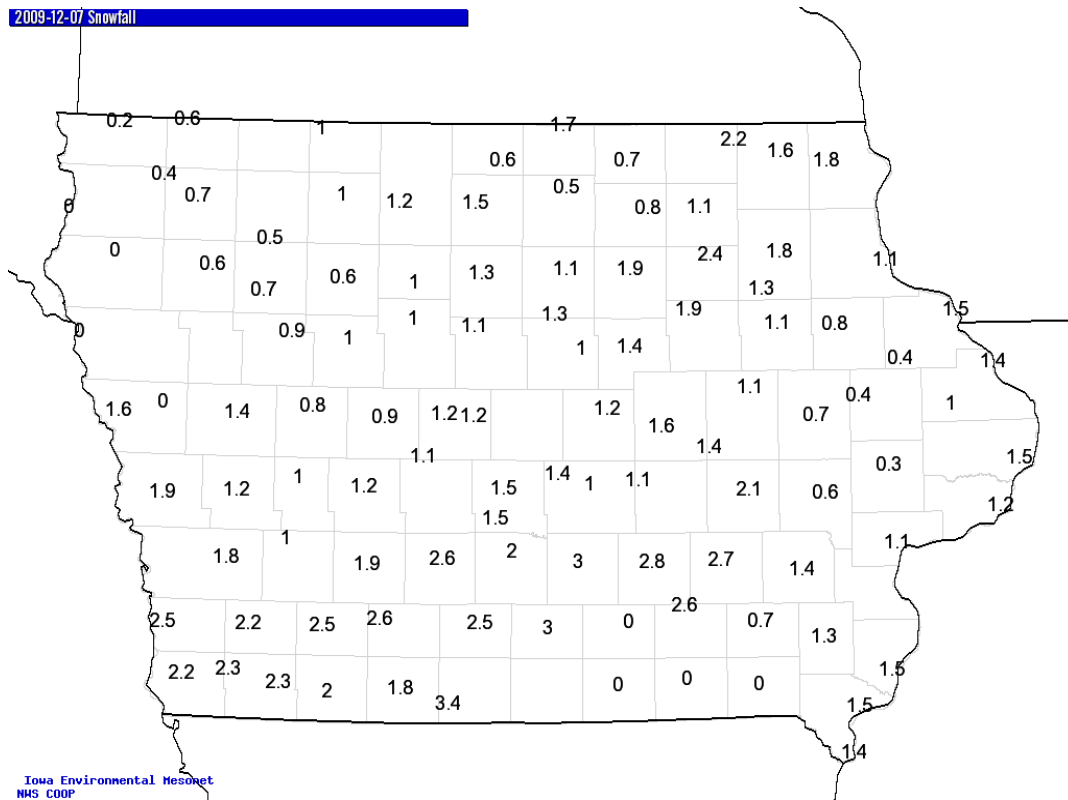
The month of December 2009 will go down as one of the wettest and snowiest Decembers on record not only for individual stations in Iowa, but on a statewide average as well. Ironically, the month started out very mild with highs in the 50s to lower 60s statewide. Please see image below for high temperatures on December 1st.

High Temperatures for Iowa on December 1st



However, a cold front moved through Iowa by late in the day on the 1st ushering in colder air. Temperatures were then much closer to normal for the remainder of the first full week of December. A fast moving system on the 6th brought light snowfall to much of the state with generally 1 to 3 inches in most locations (see image below).

Snowfall on December 6th

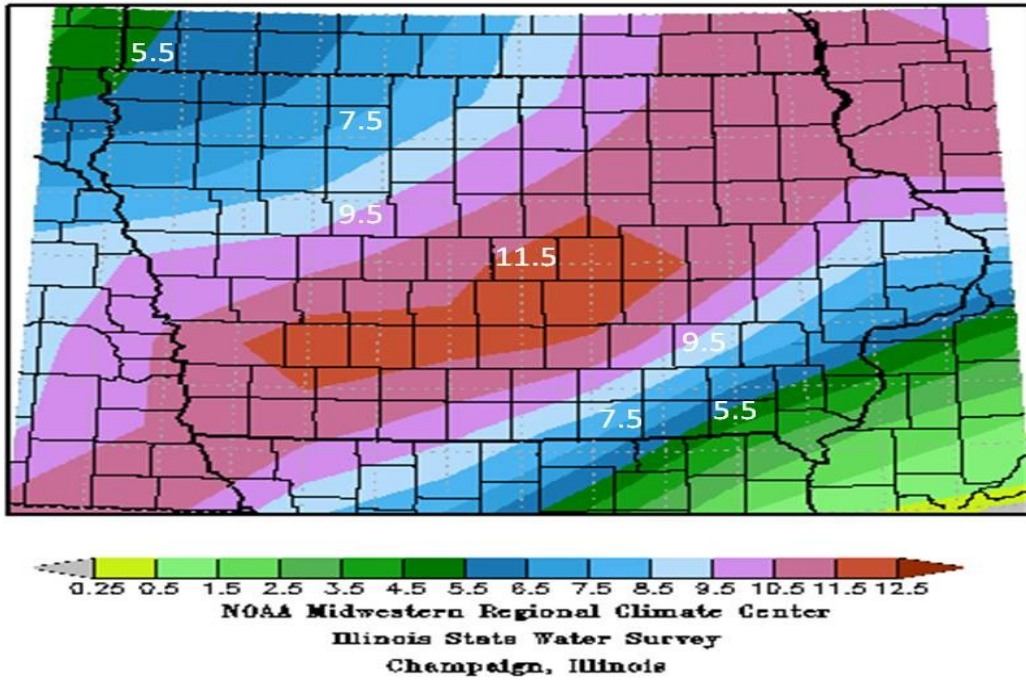


This weak system was a precursor to a much more vigorous and dangerous storm poised to affect the entire state on the 8th and 9th of the month. This storm started producing snow on the morning of the 8th with the snow intensifying into the evening. Moderate to heavy snow was widespread in much of Iowa with the heaviest falling from the southwest corner of the state, through Des Moines, into the northeast corner of the state. (See image below). A statewide average of 10.2 inches of snow fell with this storm, the largest single storm total for Iowa since January 2-4, 1971 and the 3rd largest storm total since 1950. In Des Moines, the storm produced 15.5" of snow which was the 4th largest storm total since snow records started in 1884. For Waterloo, the 2-day total of 14.6" was the 2nd largest storm total since snow records started in 1895.

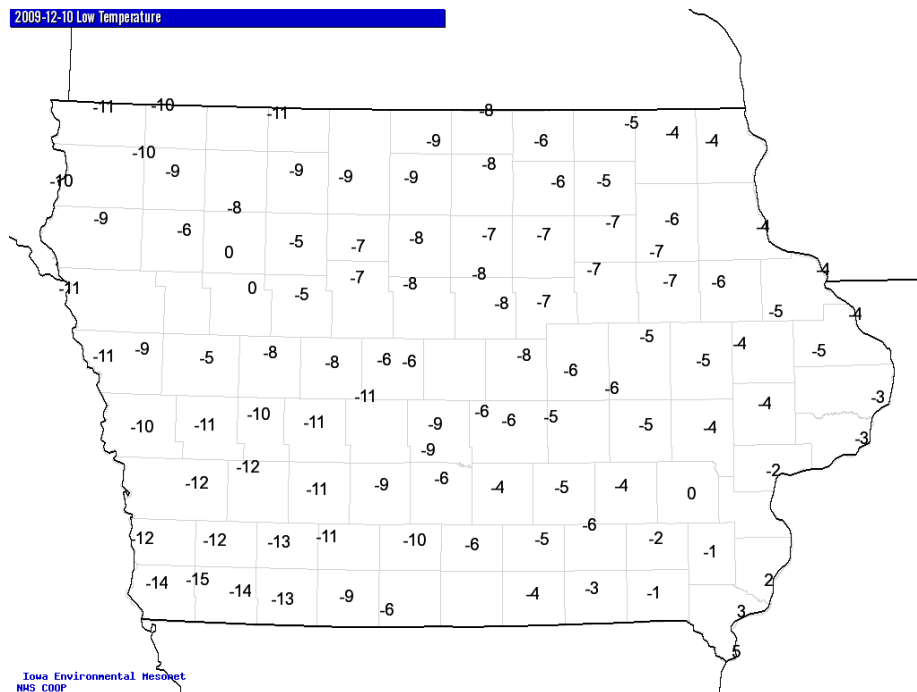
By the early morning hours of the 9th, strong northwest winds developed across northwest Iowa and spread eastward during the day. A peak wind of 61 mph was observed in Estherville with blizzard conditions across much of central Iowa until winds weakened by late afternoon. Photos in the last half of this document illustrate the impacts of the blizzard on central Iowa. Bitter cold poured in with readings below zero across much of the state by the morning of the 10th with actual air temperatures down to -19F at Little Sioux and wind chills as low as -31F at Mason City. (See image on next page for Lows)

Snowfall Total for the December 8-9 Blizzard

Total Snowfall in Inches
December 8, 2009 to December 9, 2009



Lows on the morning of December 10th



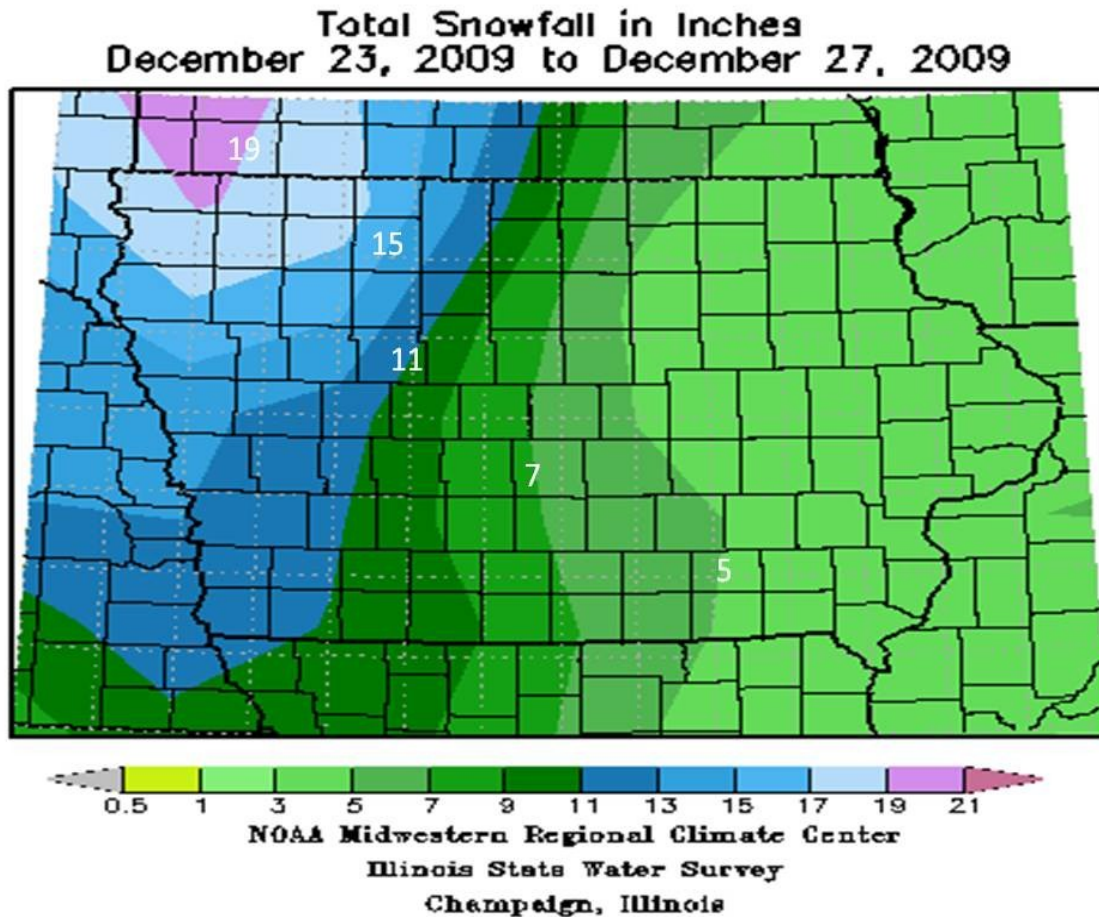
As Christmas approached, the weather became active once again as the first in a series of systems passed through northern Iowa late on the 19th into the 20th. This produced some light snow. Northern Iowa once again received light snow during the afternoon of the 21st into early morning on the 22nd. However, a much more intense system was set to arrive on the 23rd and persist across the state for several days. The 23rd and 24th saw snow fall in far northwest Iowa, with a large area of freezing rain and freezing drizzle mainly in the western half of the state. Significant icing occurred in portions of west central to central Iowa and numerous power outages were reported. Farther east, temperatures were warm enough for primarily rain during this time. Colder air began to push slowly eastward by the afternoon of the 24th with rain and freezing rain changing to snow along and west of Interstate 35 by evening. Winds increased in far western Iowa by late on Christmas Eve with near blizzard conditions along the Missouri River valley. The intense low arrived in eastern Iowa on Christmas day and then meandered around the state through the subsequent weekend of the 26th and 27th. An interesting phenomenon occurred with high temperatures on Christmas Day as the low pulled through eastern Iowa and warm air wrapped into northern Iowa. The coldest temperatures were actually in southwest Iowa with warmer readings to the north and east (See image below). Total snowfall from the storm ranged from 3 to 5 inches in the east to nearly 20 inches in the far northwest portion of the state. (See images below).

2009-12-25 High Temperature

Map of Iowa showing high temperature readings from the Iowa Environmental Mesonet for December 25, 2009. The map displays a grid of 100 locations across the state, each with a numerical temperature value. The temperatures range from 17 to 51 degrees Fahrenheit.

Iowa Environmental Mesonet
map data

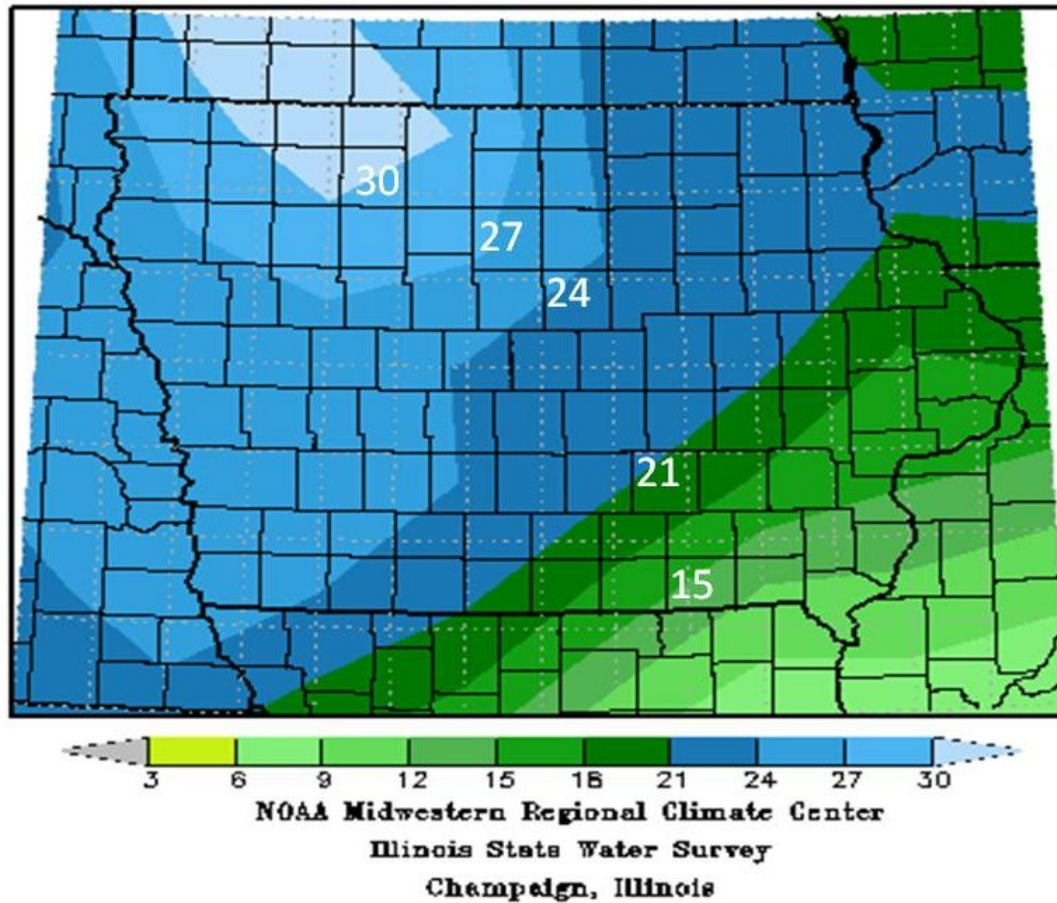
Total Snowfall for Entire Storm December 23th -27th



As of December 29th, the statewide average precipitation is nearly 2.60" which is the 2nd most ever for the month of December. The record value is 3.43" set in December of 1982. Snowfall stands at 22.1" which is also the 2nd most snow for the month behind the record value of 25.5" in 2000. It is also the 3rd snowiest calendar month on record and trails 22.2" set in February 1962 and 25.5" set in December of 2000.

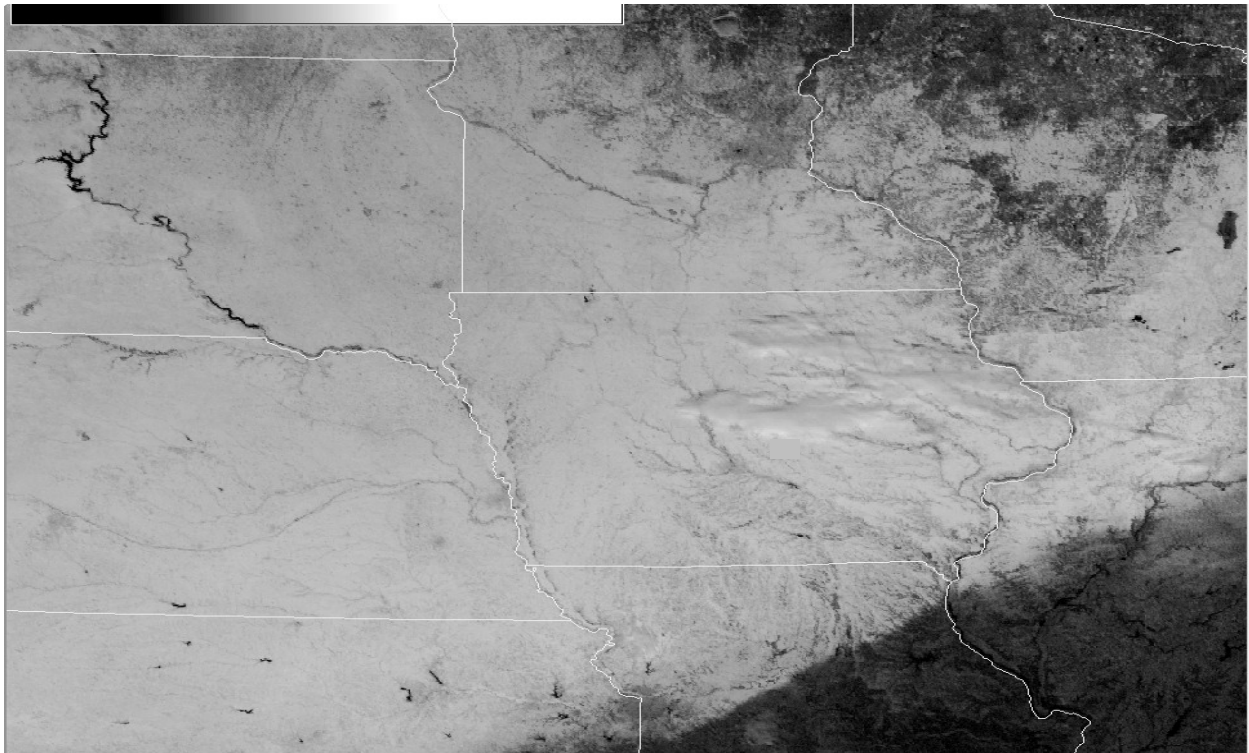
Statewide Snowfall for December

Total Snowfall in Inches
December 1, 2009 to December 29, 2009



Heaviest snows were in the northwest where over 30 inches occurred during the month. Much of the northwest half of the state saw over 2 feet of snow for the month. Only the southeast corner of the state near Keokuk has seen under a foot of snow for the month.

Storm photos follow. Our thanks to the photographers and public servants who were out braving the storms.



Visible Satellite Picture of snow cover across the Midwest after the December 8th-9th Blizzard



Traffic along I-235 near 63rd Street exit on Tuesday morning, Dec. 8, 2009. Rodney White/The Register



Sign over I235 near Euclid Avenue tells motorists of the snow storm warning that will last until noon Wednesday December 9, 2009. Photo taken on Dec 8th. Artur Fernandez/The Register.



Beginning of Snow Storm on December 8th at the National Weather Service. Jim Lee/NWS.



The crew of plow drivers Steve Bucklew, Brian Wilson and Tim Mentele clear part of Merle Hay Road in Johnston around dusk on Tuesday. Todd Erzen/The Register.



Near Whiteout conditions in Rural Mahaska County — December 9th. Mahaska EMA.



Nevada, Iowa Police photo of the Lincoln Highway and Airport Road, on the west side of Nevada on December 9th.



Downtown Oskaloosa on December 9th. Mahaska County EMA.



Snow blows in Waterloo on University Ave. looking west, early Wednesday morning, Dec. 9, 2009. John Gaps III/The Register



Tom Nyren of Johnston was on his way to the hardware store when he came upon a stranded driver on 100th St. in Johnston. He tried to help the VW get past a snow drift. James D. Fidler/The Register.



The entrance to the Des Moines Airport was a mess as blizzard conditions hit Iowa on Wednesday, Dec. 9th.
Bill Neibergal/The Register.



National Weather Service in Johnston. Here for you. Wednesday, Dec. 9th. Jim Lee/NWS.



Heavy snow and winds made travel treacherous Wednesday in central Iowa. Visibility from blowing snow was still difficult on I-80 near Mitchellville Wednesday afternoon. Rodney White/The Register.



Blizzard winds down. These were taken from the overpass at Dayton Avenue (Ames). They show how utterly dead Highway 30 is. Gunnar Olsen/The Register.



Snow removal equipment worked at keeping the road and sidewalks clear in front of the terminal area at the Des Moines Airport as blizzard conditions hit Iowa on Wednesday morning, Dec. 9th. Bill Neibergal/The Register.



Clearing snow at the Ankeny Regional Airport Thursday afternoon (Dec 10th). Rodney White/The Register



Semi-tractor trailer on its side along Interstate 35 north of Ankeny. Rodney White/The Register



Icy roads stall trucks on the Highway 65, Highway 6 exit off Interstate 35 near Altoona Thursday afternoon (Dec 10th, the day after the blizzard). Rodney White/The Register

The Christmas week storm was more of a mixed mess of winter weather for central Iowa. Ice and heavy snows caused the biggest impacts in western Iowa.



Iowa DOT truck cleans off northbound lane of Hiway 5 north of Carlisle on Christmas Day. Bill Neibergall/Des Moines Register



Nearly a half inch of ice coating near Jamaica, Iowa on December 24th. NWS photo.



Cass County, Iowa ice and snow after the Christmas 2009 storm. Cass County EMA.



Cass County, Iowa snow and ice after the Christmas 2009 storm. Cass County EMA.

This review was completed by Craig Cogil, Climate Focal Point, with assistance from Karl Jungbluth, Science Officer, at the NWS in Johnston.